AMENDMENTS TO THE CLAIMS

1. (Previously Presented) An inner rotor of an internal gear pump comprising said inner rotor and an outer rotor having one more tooth than said inner rotor, said inner rotor including a plurality of teeth each comprising a tooth bottom defined by hypocycloidal curves, an engaging portion configured to engage an outer rotor and defined by involute curves, and a tooth top defined by a predetermined curve.

2. (Original) The inner rotor for an internal gear pump of claim 1 wherein a base circle of said hypocycloidal curves has a diameter greater than a base circle of said involute curves, each of said hypocycloidal curves of said tooth bottom connecting with one of said involute curves of said engaging portion at a point inside of the base circle of said hypocycloidal curves, and wherein a tangent, at said point, to a circle having a center at the center of the inner rotor and passing said point forms an angle smaller than 85 degrees with respect to a tangent to the involute curve at said point.

3. (Currently Amended) The inner rotor for an internal gear pump of claim 1 ~~or~~ 2 wherein said predetermined curve defining the tooth top is an epicycloidal curve.

4. (Currently Amended) An internal pump comprising the inner rotor of claim ~~any of claims~~ 1 ~~to 3~~, and an outer rotor having a plurality of teeth which are in the shape of an envelope of tooth contours of said inner rotor when the center of said inner rotor is rotated about the center of said outer rotor along a circle having a diameter of (2e + t), where e is the distance between the centers of said inner rotor and said outer rotor, and t is

a maximum gap defined between said outer rotor and said inner rotor when said inner rotor is pressed against said outer rotor, while said inner rotor is rotated about the center of the inner rotor by 1/n, where n is the number of teeth of the inner rotor, of one full rotation of said inner rotor every time the center of said inner rotor rotates once about the center of said outer rotor.

5. (New) The inner rotor for an internal gear pump of claim 2 wherein said predetermined curve defining the tooth top is an epicycloidal curve.

6. (New) An internal pump comprising the inner rotor of claim 2, and an outer rotor having a plurality of teeth which are in the shape of an envelope of tooth contours of said inner rotor when the center of said inner rotor is rotated about the center of said outer rotor along a circle having a diameter of (2e + t), where e is the distance between the centers of said inner rotor and said outer rotor, and t is a maximum gap defined between said outer rotor and said inner rotor when said inner rotor is pressed against said outer rotor, while said inner rotor is rotated about the center of the inner rotor by 1/n, where n is the number of teeth of the inner rotor, of one full rotation of said inner rotor every time the center of said inner rotor rotates once about the center of said outer rotor.

7. (New) An internal pump comprising the inner rotor of claim 3, and an outer rotor having a plurality of teeth which are in the shape of an envelope of tooth contours of said inner rotor when the center of said inner rotor is rotated about the center of said outer rotor along a circle having a diameter of (2e + t), where e is the distance between the

centers of said inner rotor and said outer rotor, and t is a maximum gap defined between said outer rotor and said inner rotor when said inner rotor is pressed against said outer rotor, while said inner rotor is rotated about the center of the inner rotor by 1/n, where n is the number of teeth of the inner rotor, of one full rotation of said inner rotor every time the center of said inner rotor rotates once about the center of said outer rotor.

8. (New) An internal pump comprising the inner rotor of claim 5, and an outer rotor having a plurality of teeth which are in the shape of an envelope of tooth contours of said inner rotor when the center of said inner rotor is rotated about the center of said outer rotor along a circle having a diameter of (2e + t), where e is the distance between the centers of said inner rotor and said outer rotor, and t is a maximum gap defined between said outer rotor and said inner rotor when said inner rotor is pressed against said outer rotor, while said inner rotor is rotated about the center of the inner rotor by 1/n, where n is the number of teeth of the inner rotor, of one full rotation of said inner rotor every time the center of said inner rotor rotates once about the center of said outer rotor.